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PART I.

ORIGINAL COMMUNICATIONS.

ART. V.—*On Lupus and its Treatment.* By WALTER G. SMITH, M.D.; Physician to Sir Patrick Dun's Hospital; King's Professor of Materia Medica, School of Physic, T.C.D.

A CURSORY perusal of even a portion of the somewhat extensive literature which has grown up around lupus,[a] or a short experience of this affection, can scarcely lead to any other conclusion than that there are considerable difficulties besetting its study, especially in relation to the precise definition and limitations, the clinical relations, and the ætiology of lupus. Our ideas are, however, gradually assuming a more concrete form, and recent inquiries are calculated to place the matter upon a surer basis.

In the following communication I propose to make some remarks upon the nature and treatment of lupus, founded, in part, upon my own experience of the disease.

Let me first call attention to the summary statement of the cases of which I possess memoranda. A few recent cases are not embodied in the table.

Year	Males	Females	Total
Hospital Cases—			
1869-72	3	8	11
1873-76	2	8	10
1877	—	—	—
1878-81	13	22	35
Private Cases	4	6	10
Total	22	44	66

[a] The term lupus was first appropriated to the disease we now recognise as such by Sauvages, who called it "cancer lupus." The term "noli me tangere" is of more ancient date, and its origin is uncertain.

It is plain that in drawing up statistics of an affection, such as lupus, of debatable limits, the figures will be affected by the special views of the compiler—*i.e.*, whether he is inclined to assume a broad or narrow basis for diagnosis. Hence there is some uncertainty in comparing the numerical data given by observers in different countries. Taking, however, the above numbers, derived from an analysis of about 8,000 cases of cutaneous disease, I find that the frequency of occurrence of lupus in Ireland (Dublin) may be reckoned as approximately 1 in 200. In England and Scotland it seems to be much commoner. Dr. J. H. Stowers gives 2·5 per cent. as the result of his observations in London, and Dr. M'Call Anderson's statistics ascribe it a frequency of about 1 in 50.[a]

Professor Kaposi, of Vienna, has seen 1,200 cases of lupus in 20 years, while in the United States it is decidedly rare, and, according to the statistics of the American Dermatological Association, occurs in the ratio of only 1 in 400. Dr. Duhring remarks that the majority of cases appeared among the poorer Irish and German immigrants.

In my cases the ratio of females to males is 2:1, the preponderance in the female sex being in accord with the observation of most other writers.

In regard to the *differential diagnosis*, there are practically four other affections of the skin from which we have to discriminate lupus:—

1. *Scrofuloderma.*—This is confessedly sometimes a difficult question, and loses much of its significance if we reckon lupus as a tuberculosis. True primary lupus is rare in middle or advanced life; scrofulous disease of the skin is not so rare. Scrofuloderma sometimes responds very satisfactorily and rapidly to treatment, and ulcerations of years' standing may close up in a few weeks by the use of suitable measures.

2. *Syphilitic lesions.*—While in the great majority of cases this is not difficult with sufficient care and experience, yet every now and then an example of ulcerating nodules about the nose, face, or scalp, raises the question, which is one of considerable practical moment. I have known a patch of tertiary syphilitic nodules "scraped" *secundum artem* in mistake for lupus. A course of iodide of potassium soon cleared away the nodules. Syphilis will destroy more in a few weeks than lupus in as many months or years,

[a] Treatment of Diseases of the Skin, with an Analysis of 11,000 Consecutive Cases. 1872.

and the much greater rapidity of the destructive process in syphilitic lesions, coupled with the thicker crusting, are valuable elements in the diagnosis, which is clinched by the remarkable and gratifying cures for which we are indebted to the alkaline iodides.

And here I will enter a protest against a common and, in my opinion, mischievous error of nomenclature—viz., the term "syphilitic lupus."

There are few, I suppose, now who consider with Ricord that lupus is really allied to syphilis (a "scrofulate of syphilis"), or is an offshoot of hereditary syphilis (E. Wilson, Veiel); and whether we accept, or not, the doctrine of the specific tuberculous nature of lupus, we cannot at one time have a syphilitic lupus and at another time a non-syphilitic lupus.

It has been observed that when patients affected with lupus became syphilised, treatment by potassium iodide, while it removed the syphilitic lesions, left the lupus absolutely untouched.[a]

An occasional difficulty in diagnosis furnishes no reason for mixing up totally different affections. Lupus happening in a syphilitic patient is not syphilitic lupus, just as lichen scrofulosorum is not an identical term with scrofulous lichen.

Hence, I think, the use of such loose terminology as syphilitic lupus, syphilitic psoriasis, &c., should be discountenanced. Let us rather speak of scaly, of tubercular syphilides, and so on. At the same time, I do not mean to deny the modifying influence of diathesis upon local lesions, nor should its consideration be neglected.

The term "lupoid," so often heard, is likewise an objectionable one, sometimes surely nought but a thin cloak for ignorance, and dates from a time when less care perhaps was taken, or opportunity existed, for framing an exact diagnosis. If we do not know, or cannot formulate a diagnosis in a given case, let it pass; but why say "lupoid" when we do not say "syphiloid?" It is time for *lupoid* to slide out of use, as has happened, *e.g.*, with the word *cancroid*.

3. *Psoriasis.*—Mr. Jonathan Hutchinson's proposal to designate certain obstinate scaly red patches by the hybrid term psoriasis-lupus is, I think, a step rather in the direction of confusion than of simplification of our ideas. Still it is curious to note that occasionally we do meet with cases wherein a doubt may arise as to the diagnosis between lupus and psoriasis, and in which an attentive consideration

[a] Edinburgh Med. Journ., Jan., 1884.

of the history and character of the affection is requisite in order to form a correct opinion.[a]

4. It may seem strange to allude to the possibility of mistaking lupus for chronic eczema, or *vice versâ*. But, independently of the fact that lupous surfaces are liable to attacks of intercurrent superficial inflammation which may mask the lupus, I have seen a few cases of superficial lupus confined solely to the helices of the ears, where the superficial appearances almost exactly simulated those of eczema. The diagnosis rests upon the extreme chronicity of the process, and especially upon the existence of scarring, and other evidences of friability and loss of tissue. Primary lupus of the inside of the nostrils may, too, easily escape detection, and it is probable that some cases of supposed intractable "eczema" of the nasal mucous membrane are really lupus. Lupous perforation of the cartilaginous septum may occur without any external manifestation of the disease, but I have never known the vomer to be attacked. This leads me to refer to lupus on mucous membranes elsewhere. In cases of long-established facial lupus it is not uncommon to meet with lupus on the gums, showing itself as a well-defined granular red fringe. In all the cases I have observed the disease commenced in, and was usually limited to, the region of the incisor teeth of the upper jaw.

Nor is lupus very rare upon the palate, but I have seen only one case of lupus invading the larynx. Lupus of the conjunctiva is common enough from extension of facial lupus, but primary lupus of the conjunctiva is rare, and I have seen but a few cases where this diagnosis was made.

Of lupus involving the vulva I have met with only one case.[b]

Among the rarer remote consequence of old-standing lupous disease is deformity of the parts (*lupus mutilans*), which, when it occurs on the hands, as I have seen, bears no small resemblance to leprous deformity.[c]

In one case I have met with the unfortunate event of the supervention of malignant disease upon lupus. A man, aged thirty-five years, who consulted me for extensive lupus of the face and nose, presented himself subsequently with a large, dark, fungating malignant growth springing from the nose. This growth was removed

[a] *Cf.* Plates XIX., XXXVII. New Syd. Soc. Atlas.

[b] *Cf.* Dr. Matthews Duncan. Edinb. Med. Journ. July, 1884. Med. Times and Gaz. November 15, 1884. Dr. A. Macdonald. Edinb. Med. Journ. April, 1884.

[c] *Cf.* Drawing in Virchow's Archiv. 1883. P. 218.

by my colleague, Dr. C. Ball, but the patient succumbed to a recurrence of the malignant growths in the course of the year.[a]

Turning now to the pathology of lupus, we find two chief views prevailing as to its ætiology—

1. What may be termed the Anglo-French school—*i.e.*, that lupus has a constitutional foundation, and is allied especially to scrofula.

Mr. Jonathan Hutchinson[b] seeks, with Auspitz, to widen the signification of lupus, and contends for a clinical "lupus family" of affections. He regards lupus on the whole "as a sort of cross produced by tendencies at once to scrofula and cancer, while it receives many modifications, from peculiarities in the patient's skin and his morbid tendencies, in one or the other direction." It is interesting to note that a similar view was put forward as novel at the time by Dr. James Houghton, fifty years ago:—"Were we called on to declare our opinion of the essential character of lupus, we should say that it is an intermediate pathological state between cancer and scrofula, partaking somewhat of the nature of both, but constituting a state in which, by the blending of these two diseases, many of their peculiar characteristics are lost."[c]

2. The Vienna school, as represented by Kaposi—that lupus is an exclusively local affection, and hence constitutional treatment is rejected as useless. But, notwithstanding Kaposi and the arguments he adduces, converging evidence has been accumulating in favour of the doctrine that lupus is a branch of the tuberculous stock; or, in other words, that lupus will find its true place among the chronic infective diseases of the skin—*i.e.*, those dependent upon the action of an organised virus capable of reproducing itself in the body (*e.g.*, lepra, syphilis, and tuberculosis).

The following remarks refer particularly to lupus vulgaris, for the nature of lupus erythematosus is still a matter of controversy, and Veiel[d] places it among the superficial inflammations of the skin along with eczema and impetigo.

The question, then, is this—Syphilis has a specific virus, likewise leprosy, and tuberculosis; is it so with lupus?

Ziegler,[e] while he places lupus among the infective granulomata,

[a] "Auf Lupus eine sehr deletäre Form von Carcinom entstehen kann" (Kaposi).

[b] Pedigree of Disease. 1884.

[c] Cyclop. Pract. Med. III. 1834. Art., Noli Me Tangere. P. 177.

[d] Ziemssen's Handbuch der Hautkrankheiten. 1883.

[e] Patholog. Anatomy. Macalister. Part. I. 1883.

admits that "the exciting cause of lupus is unknown." Similarly Hyde[a]—"The causes of lupus vulgaris are absolutely unknown;" and Neisser,[b] in his admirable article, to which I am largely indebted, and in which he upholds on general pathological grounds the tuberculous nature of lupus, says:—"But I cannot yet adduce the exact proof of this connexion, since neither I nor others have hitherto succeeded in demonstrating with certainty the bacilli of tuberculosis in lupous material." He presently adds that he holds the forthcoming proof to be only a question of time.

The question may be conveniently studied from three points of view—viz., clinical, histological, and experimental.

1. *Clinical Aspects.*—Upon this point suffice it to say that while Kaposi and his followers are unable to see any connexion with scrofula or tubercle, and even ridicule the proposition, they have arrayed against them the testimony of numerous skilled observers in England, France, and Germany, who recognise the points of resemblance, and note the frequent coincidence of cheesy affections of the glands, bones, and joints with lupus.[c] I cannot give statistics from my own cases, but certainly the association of lupus with scrofulous glands is sufficiently common here, and, with Fagge and others, I have witnessed the development of lupus secondary to suppurative strumous inflammation.

Now, since the fundamental unity of scrofulosis and tuberculosis has been established both on clinical and experimental grounds, if it can be shown that an intimate relation exists between lupus and scrofula an argument will be furnished for bringing lupus into the tuberculous family. M. Besnier, one of the foremost French dermatologists, insists upon the connexion between lupus and tuberculosis. In June and July, 1883, among 38 patients under his care for lupus in St. Louis, 8 presented well-marked physical signs of phthisis.[d] Dr. Tilbury Fox[e] states that lupus, in many cases, occurs in phthisical subjects; and Mr. Hutchinson has pointed out that phthisis is not unfrequently observed in the families of those suffering from lupus.

It is quite true that lupus is rarely observed in several members of the same family (Fagge), that it is seldom found

[a] Diseases of the Skin. 1883.

[b] Ziemssen. Handbuch der Hautkrankheiten.

[c] *Cf.* Discussion on Lupus, Section of Dermatology and Syphilis. Internat. Med. Congress, Copenhagen. 1884.

[d] London Med. Rec. March, 1884.

[e] Skin Diseases. Third Edition. 1873.

in combination with general tuberculosis, and that we have no evidence of hereditary or of direct transmission in the human subject.

2. *Histological*—Careful investigations have shown that no essential difference can be established between a caseating miliary tubercle and a lupous nodule, which sometimes exhibits "the exact appearance of tubercles" (Ziegler). The pathological processes in each are the same in kind, but differ in degree. Thus, in lupus it is less acute and less intense, and hence we get slower development of the inflammatory granuloma with a richer development of vessels, and consequently a more gradual destruction towards the centre, with peripheral healing and formation of spindle-cell tissue—*i.e.*, cicatrix (Neisser). But the decisive proof—the demonstration of tubercle-bacilli in lupus-material—remained to be given, and it was not long before Neisser's prophecy was fulfilled. Dr. Robert Koch, following up Friedländer's anatomical investigations, examined 7 cases of lupus of unimpeachable diagnosis.

In 4 cases he excised parts of the skin. In 3 cases he examined scrapings only of the lupus-tissue.

For direct microscopic investigation he used only the excised bits of skin. The tubercle-bacilli were found sparsely in each of the 4 cases, and only in the interior of the giant-cells. The tubercle-bacilli in lupous tissue are so isolated that in 2 cases the bacilli were not found until in the one case 27 sections and in the other 43 sections had been made. Yet it repeatedly happened that when in a number of sections not a single bacillus appeared, sections taken close by exhibited 1 to 3 bacilli. Koch never found more than one bacillus in a giant-cell.[a]

According to Unna, the bacilli are observable in quantity by partially digesting hardened specimens and examining the precipitate that falls down. Demme, Pfeiffer, and Doutrelepont had published records of the occurrence of tubercle-bacilli in lupous skin, and in the tubercles of animals inoculated with lupus. But Koch states that his experiments were finished for some months before their communications were published.[b]

The curiously sparse occurrence of the bacilli in lupus suggests a ready explanation of some of the negative results of other histologists, and likewise forbids the hope of deriving material help in diagnosis from the use of the microscope. So far as I am

[a] *Cf.* Figs. 29, 30, Mittheilungen aus dem kaiserlichen Gesundheitsamte, 1884.

[b] *Cf.* Morison on Lupus and Tuberculosis. Amer. Journ. Med. Sci. April, 1884.

aware, bacilli have not been demonstrated in connexion with lupus erythematosus.

3. *Experimental.*—Koch[a] made inoculations from all his seven cases into the anterior chamber of the eye of rabbits. In every case this was followed by tuberculosis of the iris, and in those animals which lived long enough by general tuberculosis. Numerous tubercle-bacilli were found in these inoculation-tubercles. From one specimen (excised from the cheek of a boy ten years old) he obtained pure cultures, which were several times utilised for successful inoculations on animals.

Again, Pagenstecher made three inoculations from conjunctival lupus into the anterior chamber of the eyes of rabbits. In two cases he succeeded, in one he failed. Microscopical examination of the two successful cases by Pfeiffer (Ehrlich's method) exhibited Koch's bacilli, duly recognised as such by Ziegler, Ehrlich, and others.[b] Positive results such as these, coupled with those of Schüller and Hüter, more than counterbalance the negative results announced by Cohnheim, Hänsell, and others.

Two years ago Vidal and Leloir could assert that "no results have been obtained from the experimental inoculation of animals with lupus."[c] Gathering together, then, the foregoing evidence, we seem to be guided to the conclusion that lupus is a tuberculosis (scrofulosis) of the skin excited by the tubercle-bacillus. The localisation of the bacillus in the skin. and the relatively rare involvement of other organs, constitute the peculiar features of lupus as compared with other forms of tuberculosis. The bacilli of lupus and tubercle are probably the same qualitatively, but there is a quantitative difference which is accentuated by the more unfavourable conditions of nutrition in the colder skin. Complications with tuberculous affections of other organs—*e.g.*, glands, joints, bones, and even with analogous skin affections—*e.g.*, ulcerating scrofulides, are frequent. Their non-occurrence does not contradict the tuberculous ætiology of lupus.

Genetically, then, there is only one tuberculosis of the skin, and we may say that while lupus is always tuberculosis of the skin, yet tuberculosis of the skin assumes other forms than that of lupus (Neisser). The subjoined table may be useful for reference :—

[a] Loc. cit.

[b] Berl. klin. Wochenschrift. 7 Mai, 1883.

[c] Journ. of Cutan. and Vener. Dis. 1882. P. 349.

Tuberculosis of the Skin.

1. *Miliary Tuberculosis.*	2. *Lupus* (*Tuberculo-derma*).	3. *Ulcerating Scrofulo-derma.*
Miliary tubercles and ulcers as part of a general tuberculosis. Caseates. Very rare.	A harmless (*quoad* system) form of tuberculosis, mostly limited to the skin. Does not caseate.	*i.e.*, ulcerations arising from bursting of a "cold" subcutaneous abscess. Often yields well to treatment.

Symmetrical.	*Unsymmetrical.*
Lupus erythematosus. L. sebaceus, &c. Very difficult to cure.	Lupus vulgaris. L. exulcerans, &c. Local malignancy.

Aberrant forms.

In short, the evidence is strong of the unity of cause in tuberculosis, lupus, and scrofulosis, although we do not yet know the special determining conditions of each case. Ewald[a] even goes so far as to suggest *Morbus Kochii* as a clinical term for this group of three, by way of analogy to Morbus Brightii, but this innovation is scarcely likely to be approved.

If asked for a definition of lupus, I would say it is "a very chronic new cell-growth, depending upon infection with the bacillus tuberculosis, always ending by scars, with or without ulceration, and usually developing brownish-red nodules."

Treatment of Lupus.—The two prime objects of treatment are (1) to check the development and extension of the morbific virus; (2) to destroy the existing foci of disease. Constitutional treatment can bear upon the first object only; local treatment has a relation to both objects. In regard to constitutional treatment, I will only say that if the tuberculous doctrine of lupus be accepted it lends emphasis to the recommendations of those who advocate the internal use of anti-scrofulous remedies, and especially cod-liver oil, iodine, iodoform, and the adoption of all measures calculated to fortify the system, while, on the other hand, it adds force to those who teach that enfeebling remedies, such as mercury, should be abstained from.

I may also point out that some of those who refuse to acknowledge a relationship between lupus and scrofula, nevertheless appreciate the use of such therapeutic means as those just referred to, and which may be supposed to act by modifying the soil, for

[a] Berl. klin. Wochenschrift. No. 44. 1884.

"we become tuberculous, we are born scrofulous" (Landouzy). Dr. J. Warburton Begbie[a] mentions that, many years ago, when a student in Paris, he saw numerous cases of ulcerating lupus in the wards of St. Louis Hospital, which were materially benefited, and some apparently cured, by the administration of cod-liver oil in very large doses. The patients took the oil, not in spoonful doses, but in *large glasses* or *tumblerfuls.*

The late Dr. Edmund Parkes, who completed and edited Dr. A. Todd Thomson's "Treatise on Diseases of the Skin, 1850," testifies that Dr. Thomson was extremely successful in temporarily, and sometimes even permanently, arresting the ravages of lupus. Dr. Parkes saw many cases treated by him in which "a speedy, manifest, and undoubted improvement followed the use of certain remedies," chiefly iodine, iron, and arsenic conjointly, while local applications were sparingly used. Cod-liver oil was frequently given.

On the whole, in reference to the internal medication of lupus, we cannot maintain that as yet we know of any specific against the lupus (*i.e.*, tuberculous) virus; and perhaps the most that can be done in this way is by strengthening the constitution to increase the capacity for resistance of the body against the spread of the germs of the disease.

It will be generally admitted that local treatment is the more important, and the principles to bear in mind are these:—

(*a*) To remove useless and morbid tissue.

(*b*) To effect in those parts which are still firm and comparatively healthy the absorption of the lupous infiltration.

(*c*) To vigorously suppress any relapse at once (Volkmann).

Locally, in spite of the easy accessibility of the lupus foci, our therapeutical efforts are not always rewarded by success. As to erythematous lupus, let us hear what MM. Besnier and Doyon say:—"Nothing is more deceptive than the therapeutics of lupus erythematosus, even allowing for recent incontestable advances. Spontaneous cures, speedy success with the most simple and the most diverse methods, frequent relapses, often unsuccess even when recourse is had to the most active measures—this is what the practitioner has to expect in the treatment of lupus erythematosus."

Before entering upon the discussion of the choice of special remedies, the following propositions may be laid down:—

[a] Works, New Syd. Soc. 1882. P. 319.

(*a*) There is no single lupus panacea to be looked for.

(*b*) No individual method will suit every case.

(*c*) Relapses will occur in a considerable number of cases, spite of any and every treatment.

(*d*) When there is much irritation, soothing treatment should be first adopted. Severe local procedures sometimes do more harm than good.

For the local extirpation of the new growth the chief methods have been:—

1. Chemical agents:

(*a*) *Elements*—*e.g.*, iodine.

(*β*) *Acids*—*e.g.*, arsenious, salicylic (carbolic and pyrogallic).

(*γ*) *Bases*—*e.g.*, the caustic alkalies, including Vienna paste and London paste.

(*δ*) *Salts*, of silver, mercury, and zinc (Landolfi's paste).

From a practical point of view, chemical caustics may be divided into those that destroy indiscriminately both sound and diseased tissues—*e.g.*, caustic potash, Vienna paste, Landolfi's paste; and those that, when carefully used, destroy only the diseased tissue—*e.g.*, arsenious acid and pyrogallic acid.

Neisser[a] strongly recommends pyrogallic acid, as introduced by Jarisch, and, from my own limited experience of it, I am inclined to endorse their recommendation.

Boring with a pointed stick of lunar caustic combines the effects of mechanical destruction with a corrosive action, but is very painful.

2. Thermal—*e.g.*, the actual cautery, or the galvanic cautery, or Paquelin's instrument.

3. Mechanical measures—*e.g.*, excision.

Within the last few years much attention has been directed to certain modifications of operative treatment. Of these may be named:—

(*a*) Multiple puncture, introduced by Veiel (1871) and Dubini, and advocated by Volkmann.

This method is wanting in precision, and is applicable to only a few cases of limited extent, and in an early stage.

(*b*) Linear scarification, an extension of these idea of multiple puncture. It was introduced by Mr. Balmano Squire in 1880,[b] and is largely used in France by Vidal and Besnier.

The object of each of these methods is to starve the neoplasm by cutting off or interfering with its blood-supply.

[a] Loc. cit. [b] Brit. Med. Journ. May 1st, 1880.

(*c*) The curette, or sharp spoon (Volkmann, 1870), or method of erasion.[a]

This method of treatment is best followed up by immediate cauterisation of the raw surface, in the hope of destroying the outlying germs of the disease.

I have had some experience of these methods, each of which, perhaps, has its own proper sphere, but, speaking broadly, I prefer the method by scraping, or erasion. And a comparison of the practice and results of the treatment of lupus at the present time with the results expected or attained twenty or even ten years ago will show, beyond question, that if lupus cannot as yet be expunged from the list of *opprobria medicinæ*, still the disease has been deprived of some of its repulsiveness, its ravages have been more effectually checked, and its prognosis has been materially brightened.

I shall not now enter into details of the actual procedure in either case, but will content myself, in conclusion, with summarily specifying the individual features of these two methods.

Erasion, or scraping—

1. Differentiates sound from diseased tissue, for healthy skin will not give way to the spoon.
2. It is rapid of execution.
3. It is, as a rule, not followed by much after-pain.
4. The scraped surface heals wonderfully quickly.
5. It leaves a level and tolerably sightly cicatrix.

Scarification—

1. Is applicable to some situations, and, in some cases, where erasion is unsuitable or inadvisable.
2. It is less painful, and, to some persons, a less repellent operation.
3. There is a minimal loss of substance.
4. It is especially adapted for diffuse non-ulcerating infiltrations.
5. The scar left is scarcely distinguishable from the healthy skin, and it is said not to be liable to cheloid growths, which sometimes develop upon the scars left by scraping operations.

Hence, in lupus of the face, where æsthetic considerations have especial force, linear scarification deserves a full trial in the promise it affords of effecting the desired object with the least amount of consequent deformity.

[a] *Cf.* Malcolm Morris on the Comparative Advantages of Scraping and Scarification in the Treatment of Lupus Vulgaris. Brit. Med. Journ., Aug. 18, 1883.